

D. M. KING:

Machines for Sorting Potatoes.

No. 143,357.

Patented September 30, 1873.

Fig. 1.

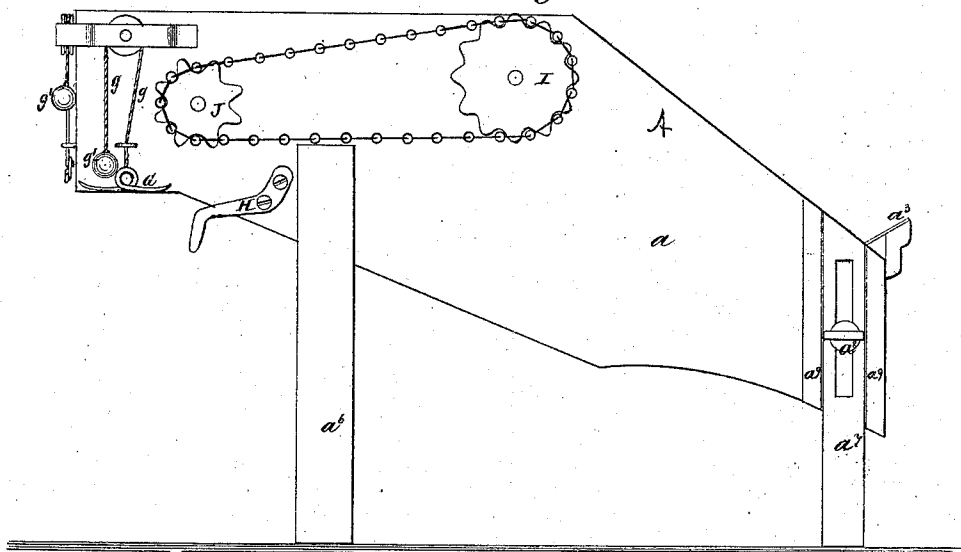


Fig. 2.

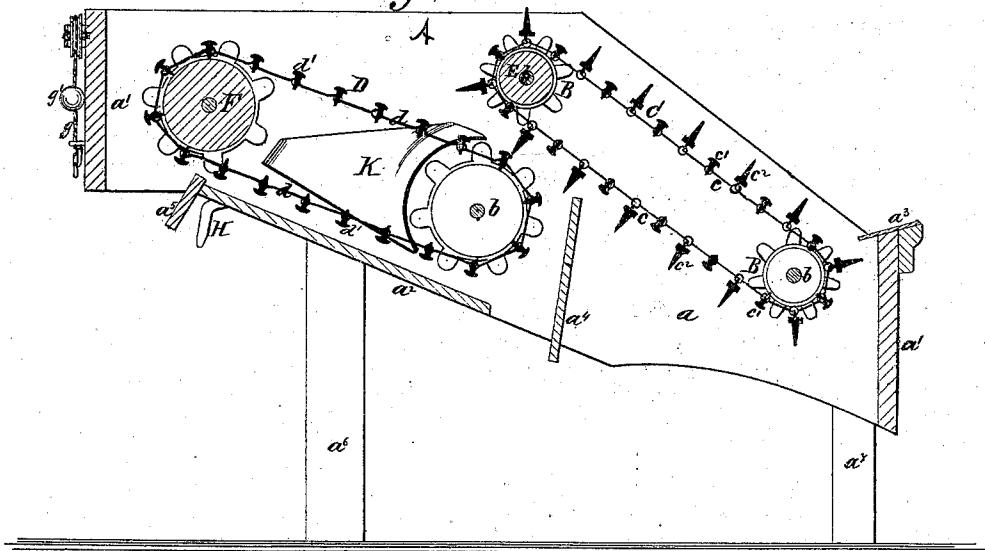
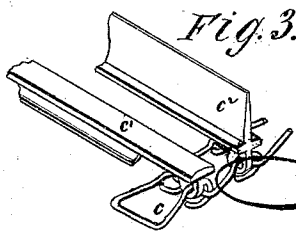


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

DAVID M. KING, OF GARRETTSVILLE, OHIO:

IMPROVEMENT IN MACHINES FOR SORTING POTATOES.

Specification forming part of Letters Patent No. **143,357**, dated September 30, 1873; application filed July 31, 1873.

To all whom it may concern:

Be it known that I, DAVID M. KING, of Garrettsville, in the county of Portage and State of Ohio, have invented a new and Improved Machine for Sorting Potatoes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification.

In the drawing, Figures 1 and 2 are longitudinal sectional elevations; and Fig. 3, a detail perspective view of chain and cross-bars.

The invention relates to means whereby potatoes may be simultaneously screened and sorted; and consists in the devices hereinafter fully described and subsequently pointed out in the claims.

In the drawing, A represents the screen and sorter-frame, consisting of the sides *a a*, end pieces *a¹ a¹*, bottom *a²*, guide-pieces *a³ a⁴ a⁵*, front legs *a⁶ a⁶*, and rear legs *a⁷ a⁷*, the latter being slotted, adjustable on screw-bolt *a⁸*, and movable between guide-strips *a⁹ a⁹*. B B are pairs of sprocket-wheels arranged on shafts *b*, that are journaled in the sides *a a*. C is an endless movable screen, consisting of the two chains *c c* and the cross-bars *c¹ c²*, of which the former are smooth and plain upon their upper faces, except at each end, where it is elevated, while the latter have a vertical flange, against which the potatoes rest. D is an endless sorting-screen that separates the small from the large potatoes, and consists of two chains, *d d*, having longer links than *c c*, and of cross-bars *d¹*, corresponding to the bars *c¹* of the first screen.

The potatoes, of all sizes, and with the intermingled soil, are shoveled on guide-piece *a³*, and, falling into the traveling screen C, are carried up to the top of a roller, E, and discharged upon the screen D, having been relieved of the adhering and intermixed soil, which drops upon the ground under the frame A. The potatoes are then carried up on the coarser screen D to the top of a roller, F, the small potatoes having passed through the screen, and, directed by the guide-piece *a⁴*, having been discharged into some receptacle under the machine, while the large and mar-

ketable tubers, directed by the sides *a a*, end piece *a¹*, and guide-piece *a⁵*, are emptied into bags, boxes, or baskets prepared for them.

A large machine does not weigh over one hundred and sixty pounds when completed, and is very easily handled or moved by two persons. It may be used in the cellar for sorting and sacking, or in the field; also, for loading in bulk, in a wagon, from pits; also, for sorting and loading when packing up in the field, &c.

The hooks G are preferably each held by a cord and weight, *g g'*, whereby bags of different lengths may be easily held by the same hooks.

H are two side hooks, one placed on each side *a*, and are used when the potatoes are to be discharged in bulk from the machine into the wagon.

If the ground is not level, one leg may be left longer than the other, and by so doing the sorter will be held on a level with the wagon, which is quite necessary. The sorter is always moved, being light and easily handled. The wagon is driven very near a pit where potatoes have been buried on or in the ground for the winter.

In combining the dirt-sifter screen and sorter-screen it is necessary that the latter shall move with a greater velocity than the former, or the potatoes will clog at the point of greatest proximity between the screens. For this purpose, on the dirt-screen shaft there is placed a wheel, I, whose chain drives a sorter-screen wheel, J, that has a much less number of spurs on its periphery. The rolls E F serve to hold the bars at a somewhat greater distance apart while the screen is making the turn. The roller E makes this opening wider at the lower end of screen, which is necessary, as any small potato that drops on the sorter-screen readily passes out at the lower end, while the upper roller not only prevents the potatoes from dropping, but gently raises and loosens them, whereby they pass on more readily.

K K are wooden blocks, placed in front of the lower sprocket-wheels of sorter-screens, concaved on the face fronting wheels, and beveled on the side face. They constitute guards

to prevent the small potatoes or other substance from interfering with the spurs of said wheels.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a potato-sorting machine, of a coarse, endless, rapidly-moving screen, D, for sorting the potatoes, and a finer

endless screen, C, projecting over it, for first sifting out the dirt, substantially as described.

2. The combination of the bag-holding hooks G on the discharge end of the machine with cord *g* and weight *g'*, for adapting the same to bags of different height, as described.

Witnesses:

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